

i3780T

Document Camera



USER MANUAL

Please read this manual carefully before operating the document camera and keep it for reference

PRECAUTIONS



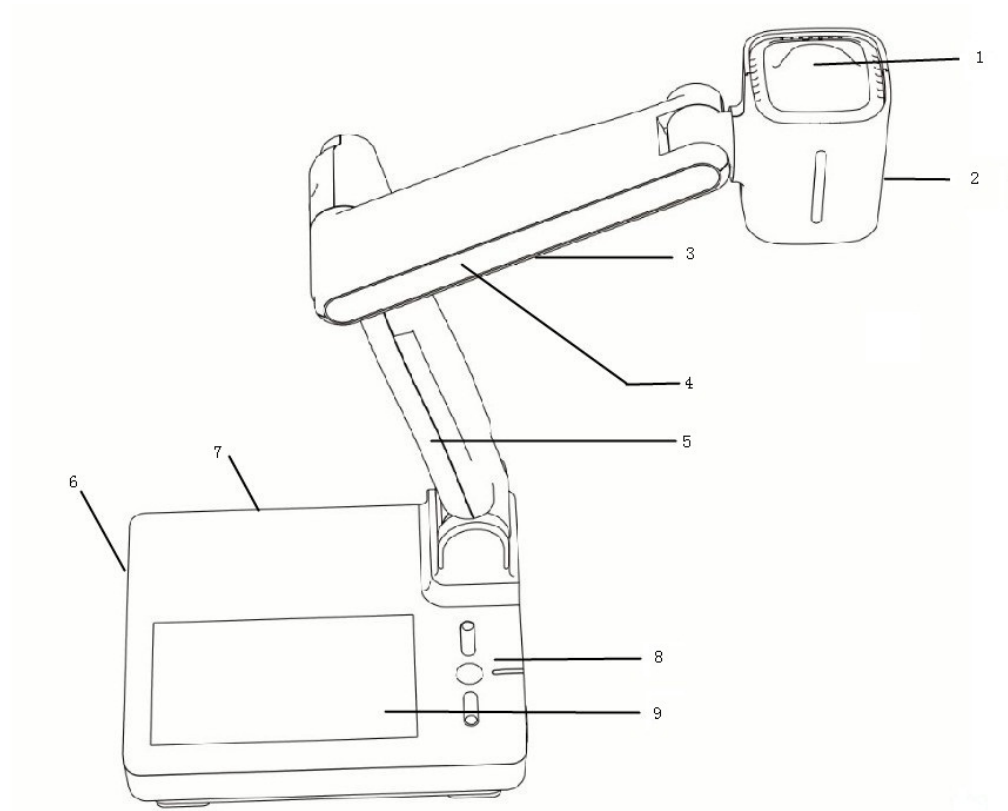
NOTICES: PLEASE READ CAREFULLY BEFORE USE

- ◆ Use the document camera under the rated electric conditions.
- ◆ Do not place the document camera on any unstable surface. It may fall and cause injuries or damages.
- ◆ Do not place this device directly under sunlight or near heaters.
- ◆ Do not place this device near water.
- ◆ Keep the camera away from acid or alkali gas.
- ◆ Do not place this document camera in humid, dusty, windy or vibrant locations.
- ◆ The recommended operating environment is:
 - Temperature: 0°C--45°C(32°F-113°F)
 - Humidity: less than 75%
- ◆ Always unplug BEFORE cleaning the device. Use a damp soft-cloth for cleaning. Do not use volatile solvent.
- ◆ When this equipment functions abnormally, such as smoke, smell, noise, immediately unplug and call for professional assistance.
- ◆ Unplug the document camera or shut off the power when not in use.

USER MANUAL.....	1
1. PARTS IDENTIFICATION.....	5
2. CONTROL PANEL	6
3. TOUCH FUNCTION	7
4. INPUTS AND OUTPUTS.....	9
5. REMOTE CONTROL	10
6. CONNECTIONS	12
6.1. COMPUTER CONNECTION.....	13
6.2. USB-A CONNECTION.....	14
6.3. VGA OUTPUT CONNECTION	15
6.4. DVI OUTPUT CONNECTION.....	16
7. USB FUNCTION	17
7.1 USB-A.....	17
7.2 USB-B.....	17
7.2.1 COMPUTER REQUIREMENTS	17
7.2.2 PREPARATION FOR INSTALLATION	18
7.2.3 SOFTWARE INSTALLATION	24
7.2.4 SOFTWARE START	25
7.2.5 IMAGE CONTROL.....	27
7.2.6 IMAGE CAPTURE AND VIDEO RECORDING	28
7.2.7 SETTING.....	299
7.2.8 IMAGE MODIFY	30
8. FEATURES	35
LIGHT.....	35
ZOOM IN AND ZOOM OUT	35
POSITIVE/NEGATIVE CONVERSION	35
FOCUS ADJUSTMENT.....	35
BRIGHTNESS ADJUSTMENT	35
WHITE BALANCE ADJUSTMENT	35
IMAGE FREEZE.....	36
IMAGE ROTATE.....	36
SPLIT SCREEN.....	36
TITLE FUNCTION	36
PICTURE IN PICTURE FUNCTION	36
IMAGE SAVE	36
IMAGE RECALL	36
RGB INPUT SWITCH	37

OUTPUT SWITCH.....	37
USB IMAGE CAPTURE AND VIDEO RECORDING	37
USB HOST PORT	37
RS232 CONTROL.....	37
9. SPECIFICATION	38
10. TROUBLE-SHOOTING:	38
11. PACKING LIST	39

1. PARTS IDENTIFICATION




1. **Remote control IR receiver**
2. **Camera**
3. **LED light box**
4. **Upper mechanical arm**
5. **Main mechanical arm**
6. **Side panel**
7. **Back panel**
8. **Control panel**
9. **Touch LCD Panel**


2. CONTROL PANEL



1. **POWER:** Turn on/off the power.
2. **MENU ENTER:**
 - a. Activate the on screen menu.
 - b. Display the selected image in Image Recall mode.
3. **PC | CAM :** Press this button to toggle between the image from the Camera and the VGA input.
4. **AUTO :**
 - a. Carry out automatic adjustment for focus, color and white balance.
 - b. When in Image Recall mode, press this button to delete a selected image.
5. **ZOOM+/-:** Image zoom in and zoom out control.

3. TOUCH FUNCTION

1 : Enter to the setting menu

2  Active the function menu

1  Image split


2  Title function


3  Brightness+

4  Brightness-

5  Image freeze


6  Image rotate

7  Focus+


8  Focus-


9  Image capture

10  Text/Picture function

11  Lamp on/off

12  Image mirror


13  Picture-in-picture function

14  Negative/positive conversion

15  Image recall


16  Exit

3  Annotation function


1  Select writing pen


2  Select clear pen


3  Rubber


4  Delete all annotation


5  Cursor


6  Select the pen's color: Red

7  Select the pen's color: Yellow

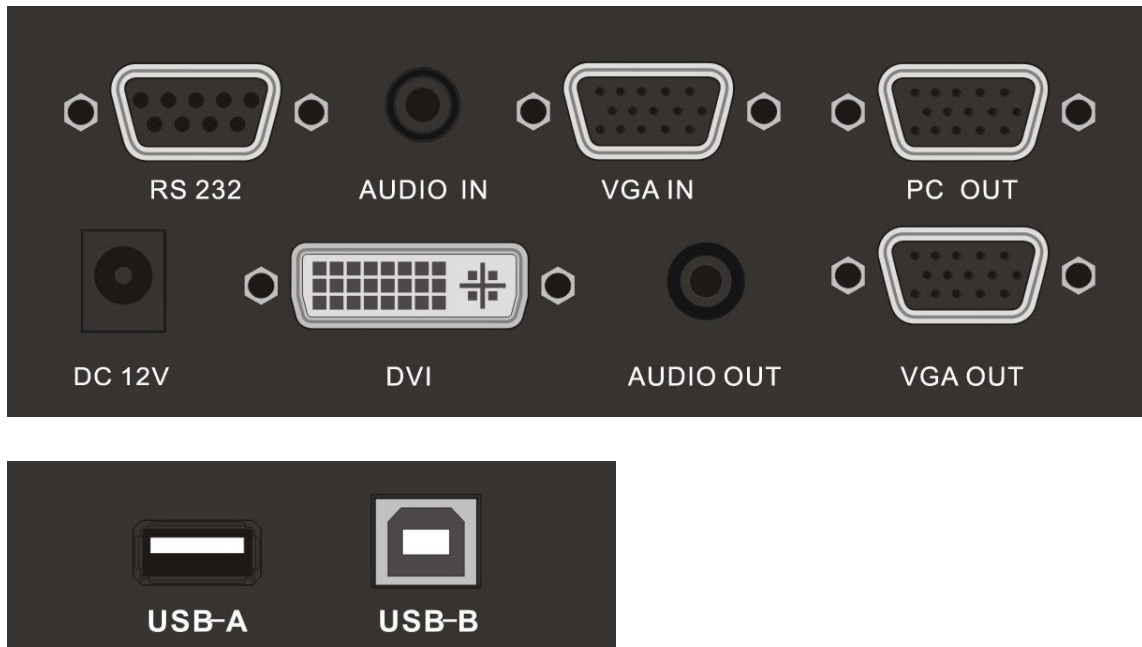
8  Select the pen's color: Blue

9  Select the thickness of writing

10  Select the thickness of writing

11  Select the thickness of writing




4. INPUTS AND OUTPUTS




1. **DC 12V**: Power input.
2. **RS 232**: Serial port, to control the document camera from a computer via this port.
3. **DVI**: DVI-A signal output.
4. **AUDIO OUT**: Audio output.
5. **VGA OUT**: VGA (RGB) signal output (15 pin D-SUB).
6. **PC OUT**: Output the signal from VGA in PLUG (15 pin D-SUB).
7. **VGA IN**: VGA (RGB) signal input (15 pin D-SUB).
8. **AUDIO IN**: Audio input.
9. **USB-A**: Communicate with a USB device, such as a USB mouse or USB drive stick.
10. **USB-B**:
 - a. In USB Video Mode, capture images or record video into a connected computer via provided software;
 - b. In USB Disc Mode, download saved images to a connected computer.

5. REMOTE CONTROL

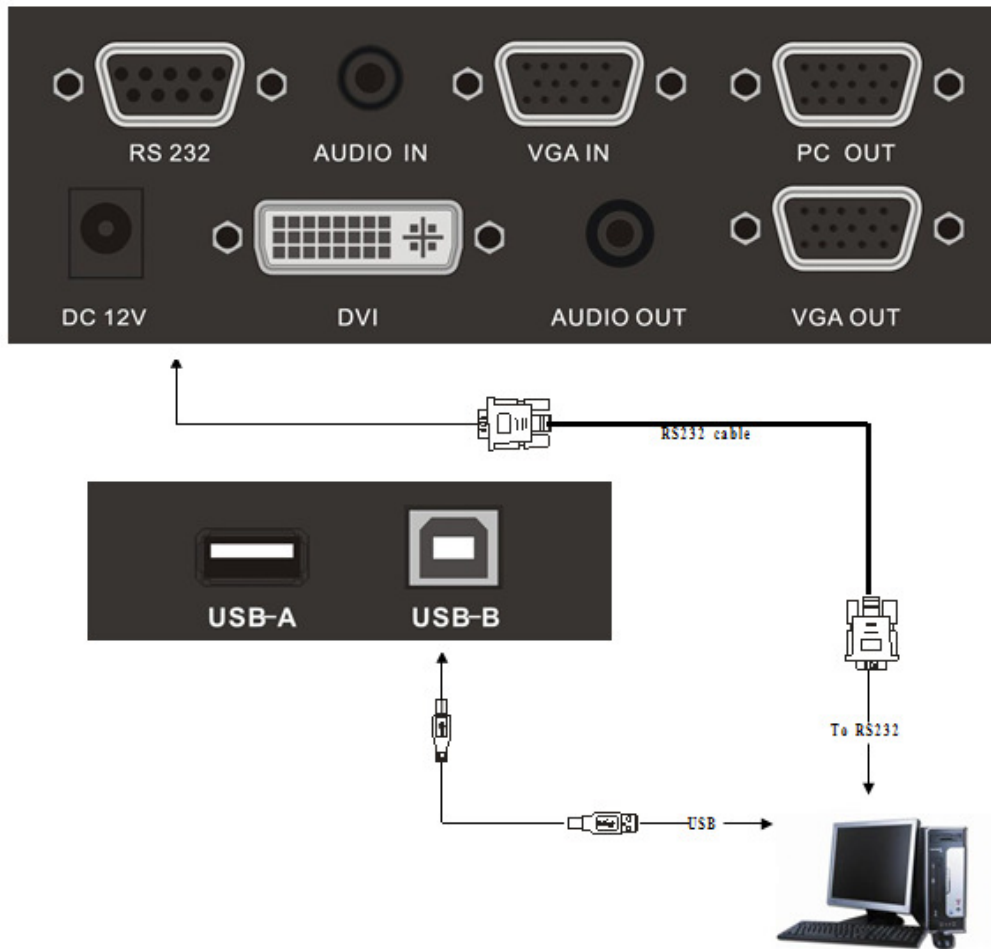


-
1.  : Turn the document camera on or off.
 2. **PC/CAM**: Press this button to toggle the output image between the document camera and VGA-IN.
 3. **MIR**: Output right-and-left, up-and-down mirror image
 4. **Output Format**: Press this button to activate the Output Format selection menu on screen. Use Up and Down arrows to select a desired output format, press **MENU ENTER** button to confirm.
 5. **Arrow Buttons**:
 - a. In Image Recall Mode, use arrow buttons to navigate the thumbnail images;
 - b. In On-Screen Menu mode, use arrow buttons to select menu items (see details below).
 6. **MENU ENTER**
 - a. In Camera mode, press and hold the **MENU ENTER** button to enter the On-Screen Menu mode, then
 1. Use left and right arrow buttons to navigate the menu bar;
 2. Press **MENU ENTER** button briefly to enter the submenu;
 3. Use up and down arrows to select a function;
 4. Use left and right arrows to change parameters of the selected function.
 5. Press and hold **MENU ENTER** button at anytime to exit the On-Screen Menu mode.
 - b. In Image Recall mode, press **MENU ENTER** button to display a selected image.
 7.  : Turn the LED light on or off.
 8.  : Activate the USB Mode selection menu on screen. Use Up and Down arrows to select USB Disc, USB Video, or Exit, press **MENU ENTER** button to confirm.
 9. **Save**: Capture the current image. If a USB drive is connected to the document camera, the image will be saved to the USB drive; otherwise, the image will be saved to internal memory.
 10. **RECALL**:
 - a. In Camera Mode, press this button to enter the Image Recall mode.
 - (1) When no USB drive is connected to the document camera, thumbnails of images in the internal memory will be displayed. Use PAGE+/- keys to navigate between pages; Use

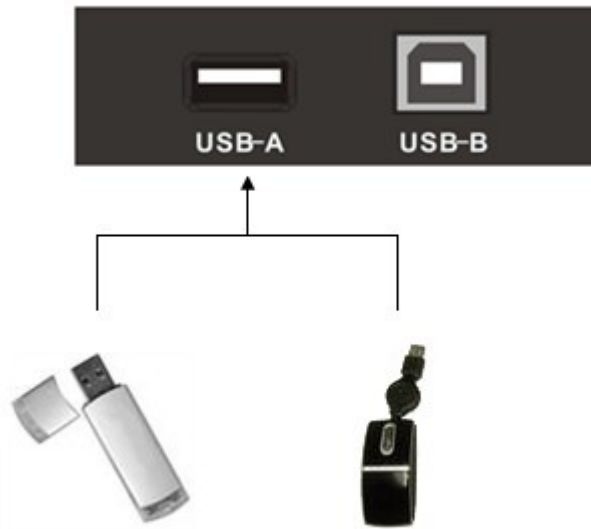
-
- arrow keys to select a thumbnail; Press MENU ENTER button to display the selected image.
- (2) When a USB drive is connected to the document camera, contents of the USB drive will be displayed on screen. Use up and down arrows to select a folder or image file; Press MENU ENTER button to enter the selected folder or display the selected image.
- b. In Image Recall mode, press this button to go back to an upper level.
11. **Page +/-**: in Image Recall mode, navigate between pages of thumbnail images.
12. **AUTO DEL**:
- a. In Camera mode, carry out automatic adjustment for focus, color and white balance.
- b. In Image Recall mode, press this button to delete a selected image.
13. **TITLE**: Enable the title function.
14. **Zoom+/-**: Image zoom in and zoom out control.
15. **Split**: Split screen, enable the comparison between the frozen image and live image.
16. **Bri+/-**: Image brightness adjustment.
17. **Frz**: Freeze/unfreeze the image
18. **Fc+/-**: Adjust focus manually, focus far and focus near.
19.  : Rotate the image by 90°, 180°, 270°.
20. **Sharp+/-**: Adjust sharpness of the image.
21. **Neg**: Switch the image between positive and negative colors.
22. **PIP**: Active the Picture in Picture function. Press PIP, it will appear the saved picture, then select on picture for PIP picture.
23. **T/P**: Switch the output image between the text mode and picture mode.

6. CONNECTIONS

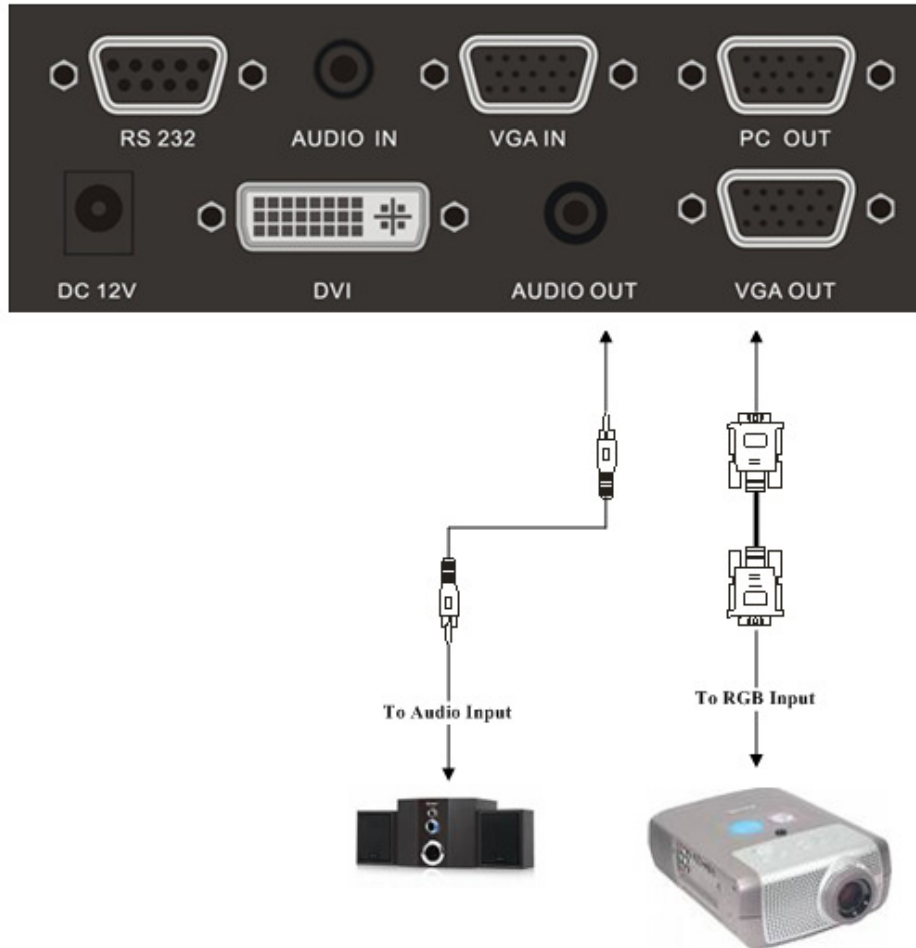
6.1.COMPUTER CONNECTION



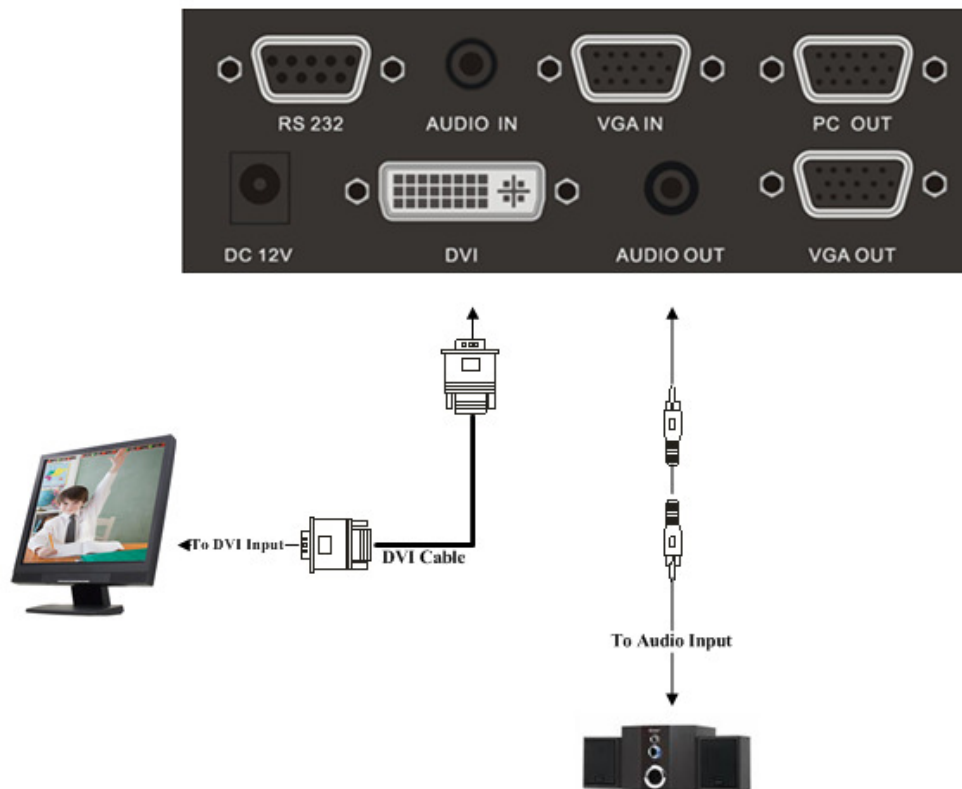
6.2. USB-A CONNECTION



6.3. VGA OUTPUT CONNECTION



6.4. DVI OUTPUT CONNECTION



7. USB FUNCTION

7.1 USB-A

USB-A connector can be used to communicate with USB mouse and USB memory stick or other USB slave device.

1. USB mouse

The USB mouse will be automatically activated when plug into the USB-A connector of i3780T, you can use it to make note or mark on the image.

2. Memory stick

- * Connect the memory stick with i3780T, then press Recall button to access the memory stick.
- * Use the left and right arrow to exit/enter a folder.
- * Use the up and down arrow button to select an image.
- * Press Menu Enter to display the selected image.
- * Press Recall button to exit.

7.2 USB-B

7.2.1 COMPUTER REQUIREMENTS

Visualizer_USB Camera software is an application that allows user to capture image, preview and record video under the Windows operating systems.

Visualizer_USB Camera software runs on MS Windows XP, Windows 7, and Vista operating systems. The minimal requirements for the computer hardware are:

Operating system: Windows XP

CPU: PIV1.8G

Physical memory: 512M

Video memory: 64M

7.2.2 PREPARATION FOR INSTALLATION

To install and uninstall, please login in as system administrator, otherwise, the install/uninstall will fail.

Please connect the unit to the PC before starting installation.

Please select the right software to install:

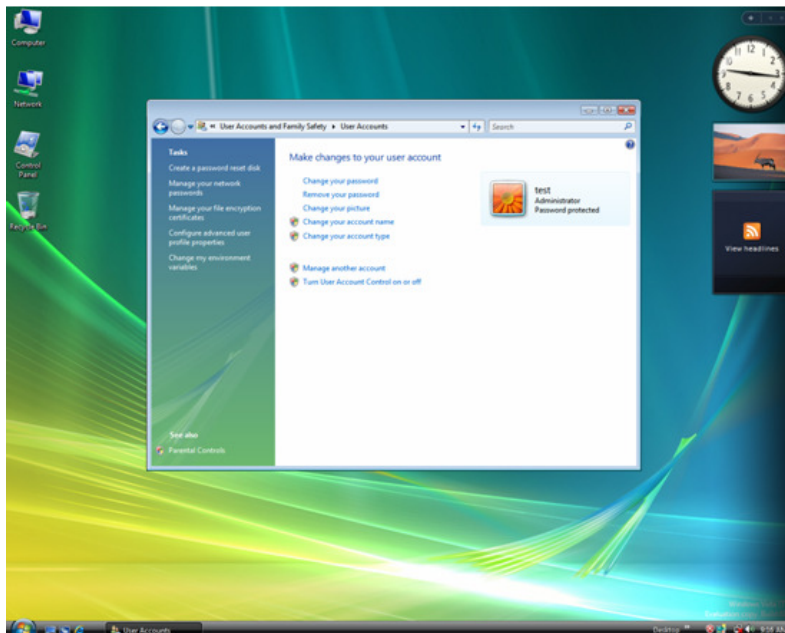
Visualizer_USB(x32): Windows XP, Windows 7, 32bit.

Visualizer_USB(Windows7 x64): Windows 7, 64bit.

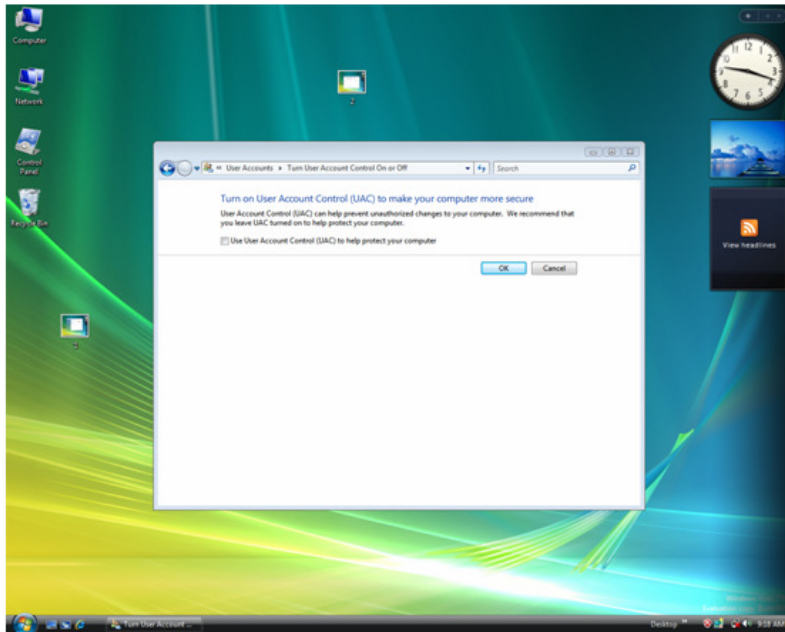
Visualizer_USB(Vista x64): Windows Vista, 64bit.

For Vista system, please do not choose “Use User Account Control (UAC) to help protect your computer”, follow the step to complete the setting:

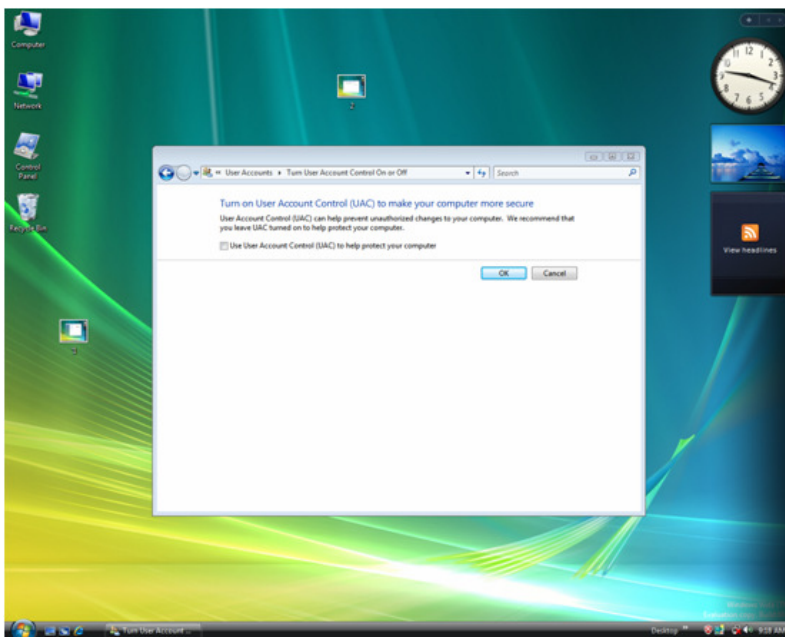
1. Open the control panel, then click User accounts:



2. Click “Turn User Account Control on or off”, we will see:

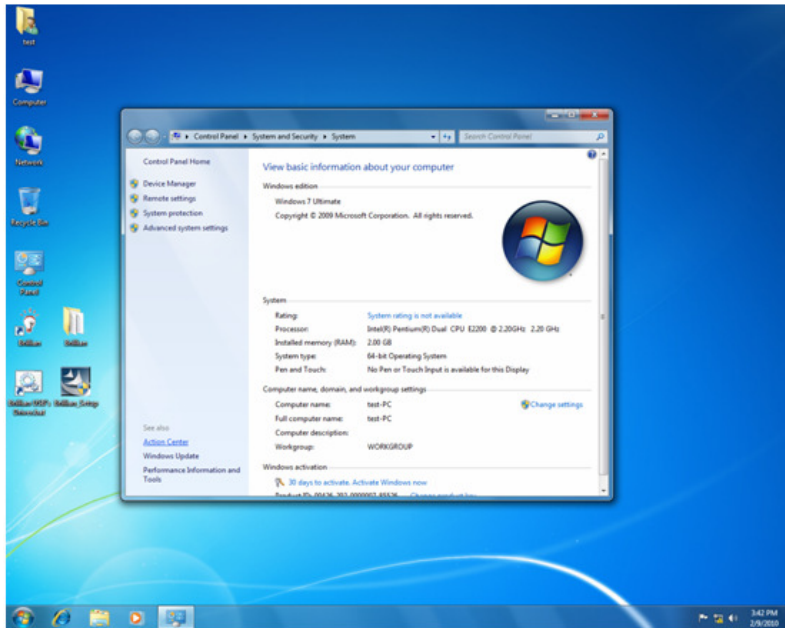


3. Make sure do not tick the option “Use User Account Control (UAC) to help protect your computer”:

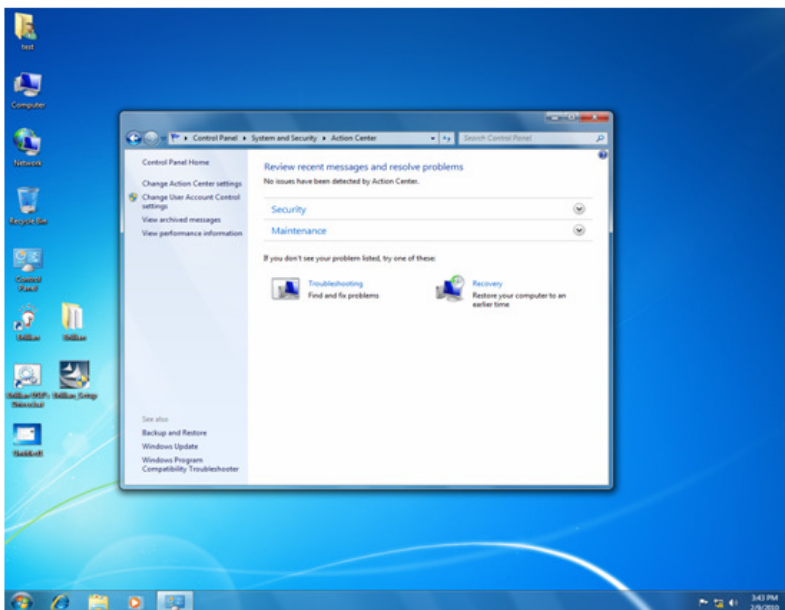


For Windows 7, please change the User account control setting to Never Notify. Follow the step to complete the setting:

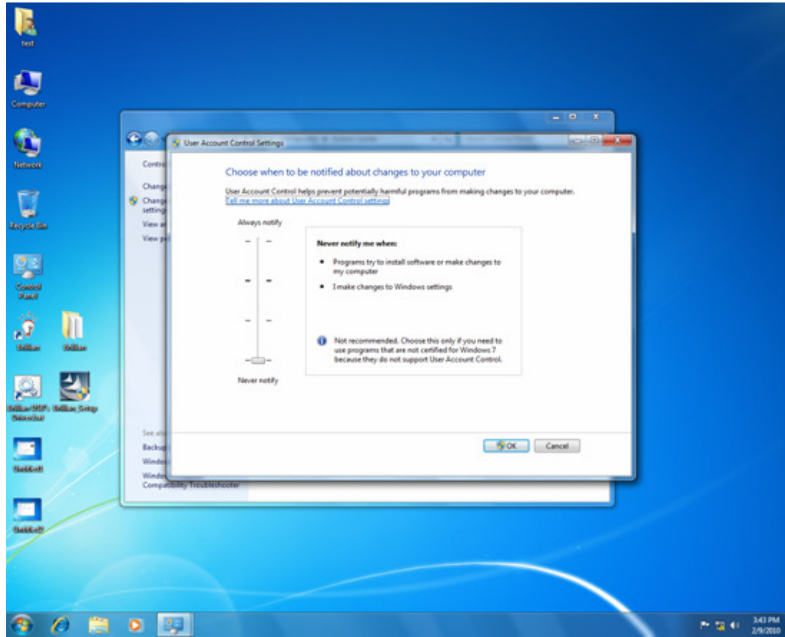
1. Click the right key of the mouse, choose properties:



2. Click Action center:



3. Click Change User Account Control Setting, then choose Never notify.

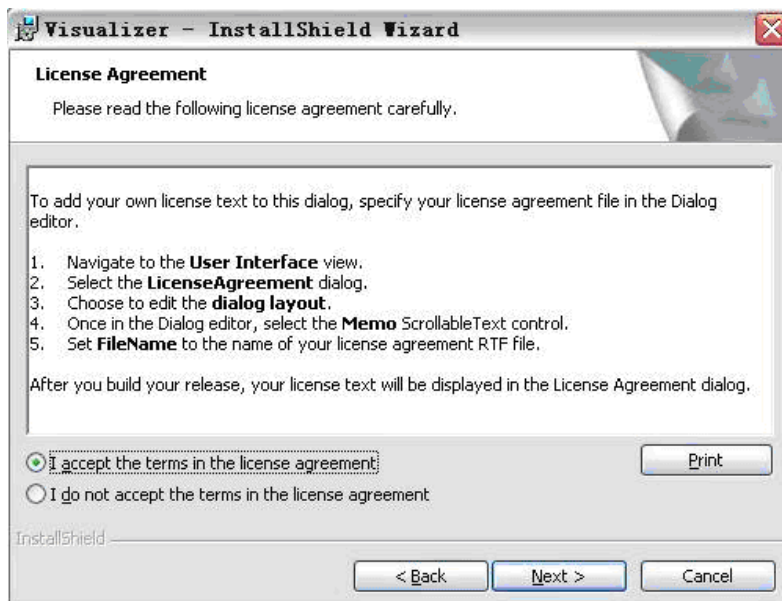


7.2.3 SOFTWARE INSTALLATION

Click to run the software installation package, the following dialogue appears, click "Next":



Read the terms, Select "I accept the terms in the license agreement." Click "Next", as the following figure.



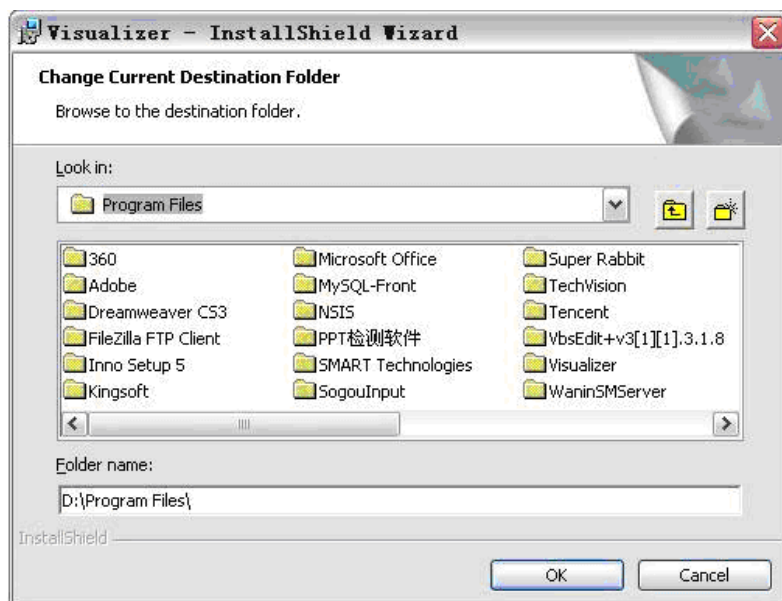
The following dialogue box appears, click "Next":



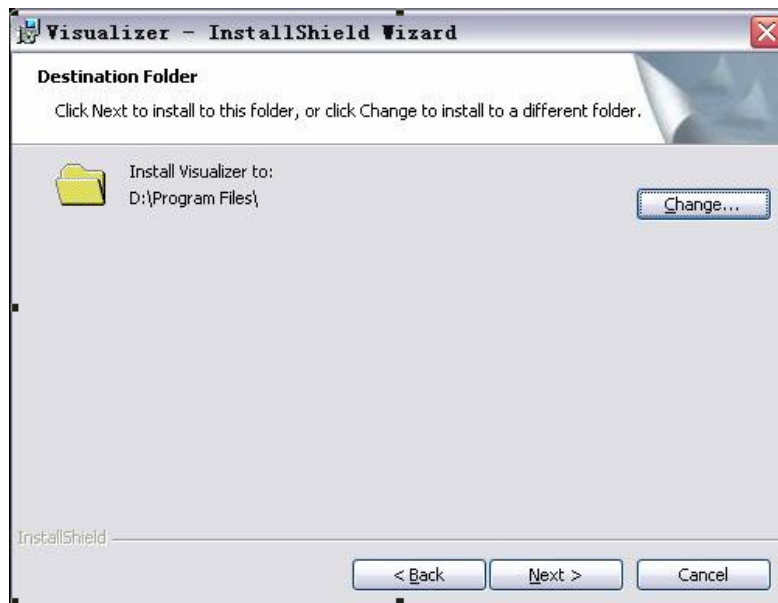
The default installation directory is Program Files, C: \ Program Files \, you can select a different installation directory, as shown:



Click "Change" to change the directory, as shown:



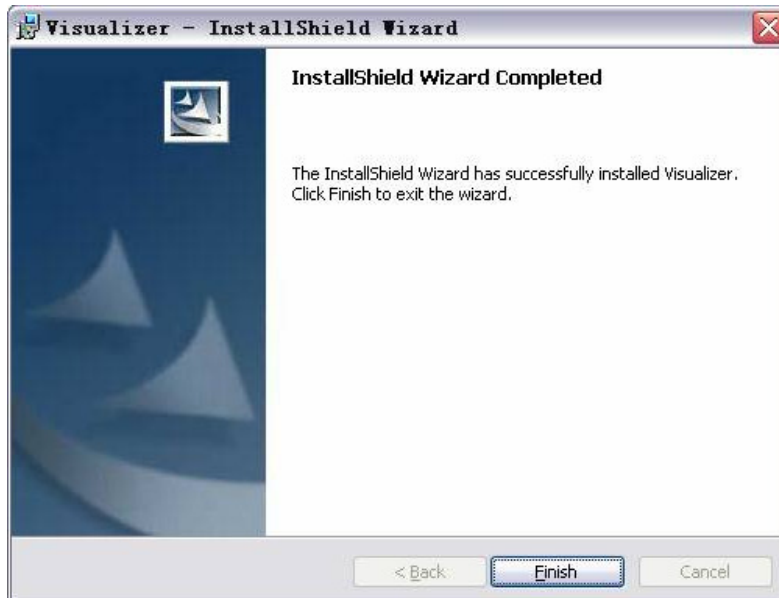
Click "OK", the following figure appears. Click "Next".



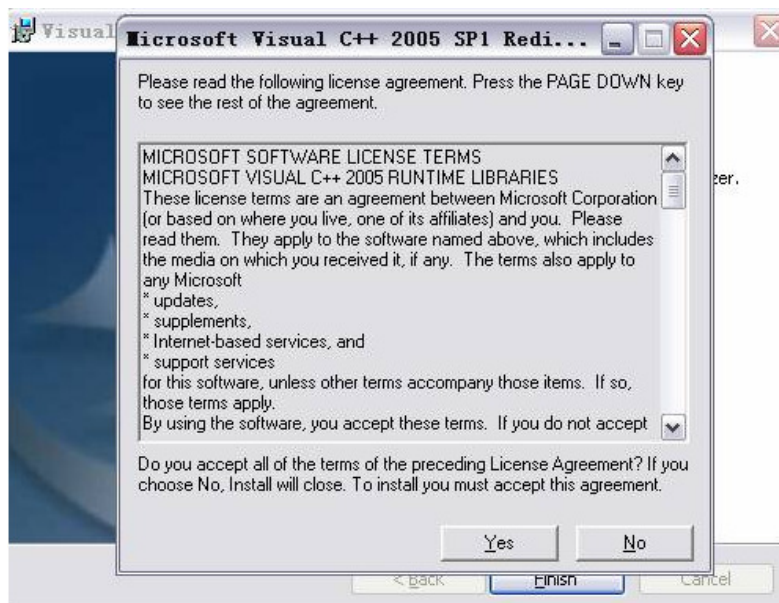
Click "Install" to complete installation, as shown:



Click "Finish" to complete the installation, as shown:



Then you will see the following interface, which is an installation package for 2005 environment. If your PC already has this installed, click "No" to exit, otherwise, click "Yes" to install it.



7.2.4 SOFTWARE START

Note: To use the software, the document camera's USB mode has to be set to USB Video mode.

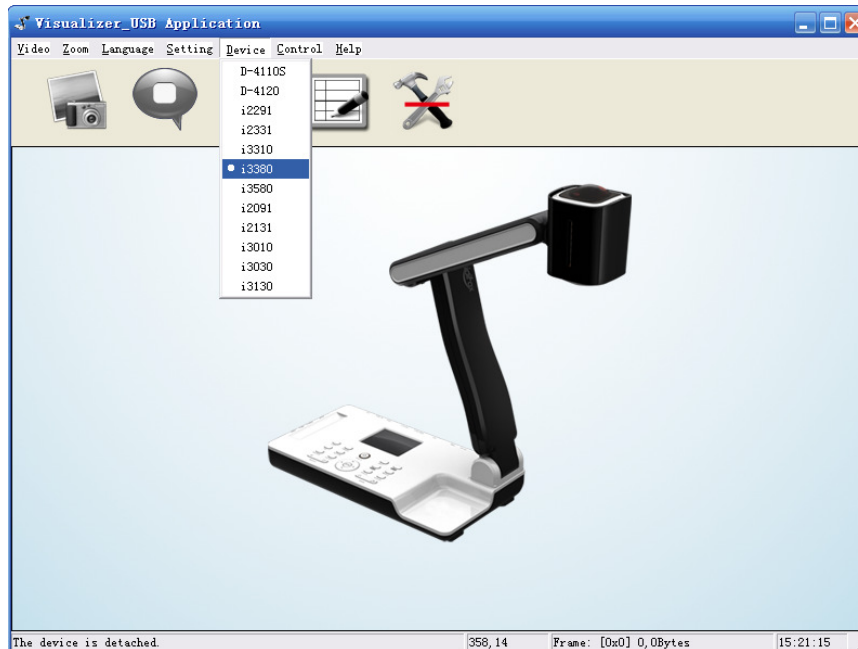
Please follow the instruction below:

- A. Make sure the USB cable is disconnected from the unit.*
- B. Press the USB button on the remote, a dialog box appears on the screen, under which you will see USB disk or USB video, use the arrow keys on the remote or front panel to select the USB video mode.*

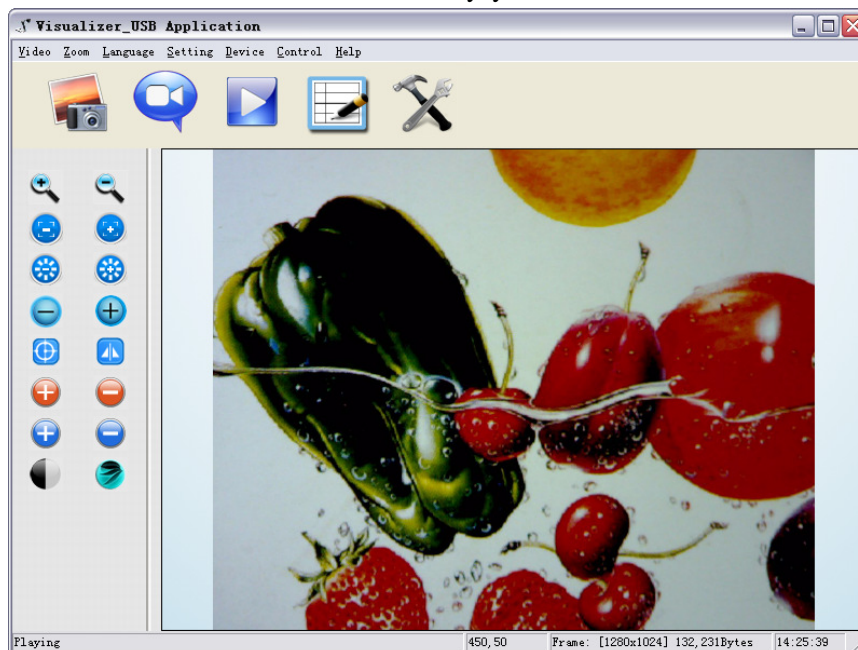
The remote and the front panel are inactive while the software is in use.



Double click the short cut on the desktop, then click *Device*, select the right model number, see below:



Then Click , or select Video->Play, you will see the interface:



7.2.5 IMAGE CONTROL

- *Zoom in and zoom out*



Zoom In ☐ Ctrl+I ☐ : Left-click the Zoom In command button to enlarge the image. Keep holding the button until it reaches the maximum zooming point.



Zoom Out ☐ Ctrl+O ☐ : Left-click the Zoom Out command button to shrink the image. Keep holding the button until it goes back to its original size.

- *Focus adjustment*



Focus Far ☐ Ctrl+R ☐ : Left click the Focus Far command button to focus far. Keep holding the button until it focuses to the farthest point.



Focus Near ☐ Ctrl+N ☐ : Left click the Focus Near command button focus near. Keep holding the button until it focuses to the nearest point.

- *Image Brightness adjustment*



Bright More ☐ Ctrl+B ☐ : Left click the Bright More button to increase the brightness.



Bright Less ☐ Ctrl+L ☐ : Left click the Bright Less button to reduce the brightness.

- *Sharpness adjustment*



Sharp More: Left click the Sharp More button to increase the sharpness.



Sharp Less: Left click the Sharp Less button to reduce the sharpness.

- *Auto focus*



Auto ☐ Ctrl+U ☐ : Left click the Auto button to auto adjust the focus.

- *Mirror adjustment*



Mirror ☐ Ctrl+M ☐ : Left click the Mirror button to adjust image to normal mirror, horizontal mirror, vertical mirror, and horizontal /vertical mirror.

- *Image red hue adjustment*



Red More: Left click the Red More button to increase the red hue.



Red Less: Left click the Red Less button to reduce the red hue.

- *Image blue hue adjustment*



Blue More: Left click the Blue More button to increase the blue hue.



Blue Less: Left click the Blue Less button to reduce the blue hue.

- *Image black and white/ color adjustment*



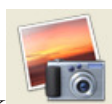
Mono/Color ☐ Ctrl+K ☐ : Left click the Mono/color button to toggle between the black-white and color modes.

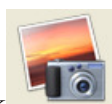
- *Positive and negative film images*

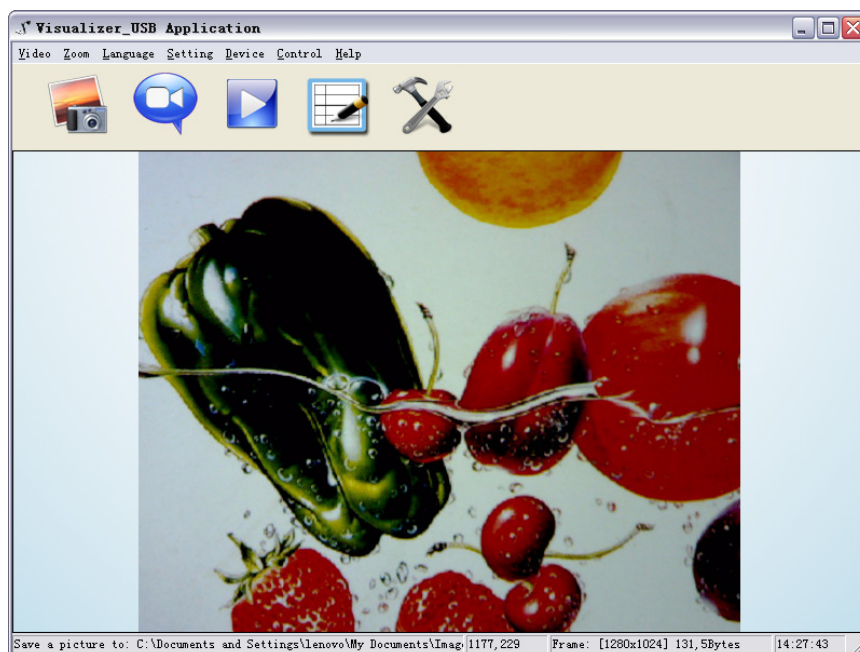




Neg ☐ Ctrl+G ☐ : Left click the Neg button to toggle between the positive and negative modes.

7.2.6 IMAGE CAPTURE AND VIDEO RECORDING



Left click  to capture images. The captured images will be automatically saved into the default destination folder. The path and file name are displayed in software status bar on the bottom of the window. Shown below:




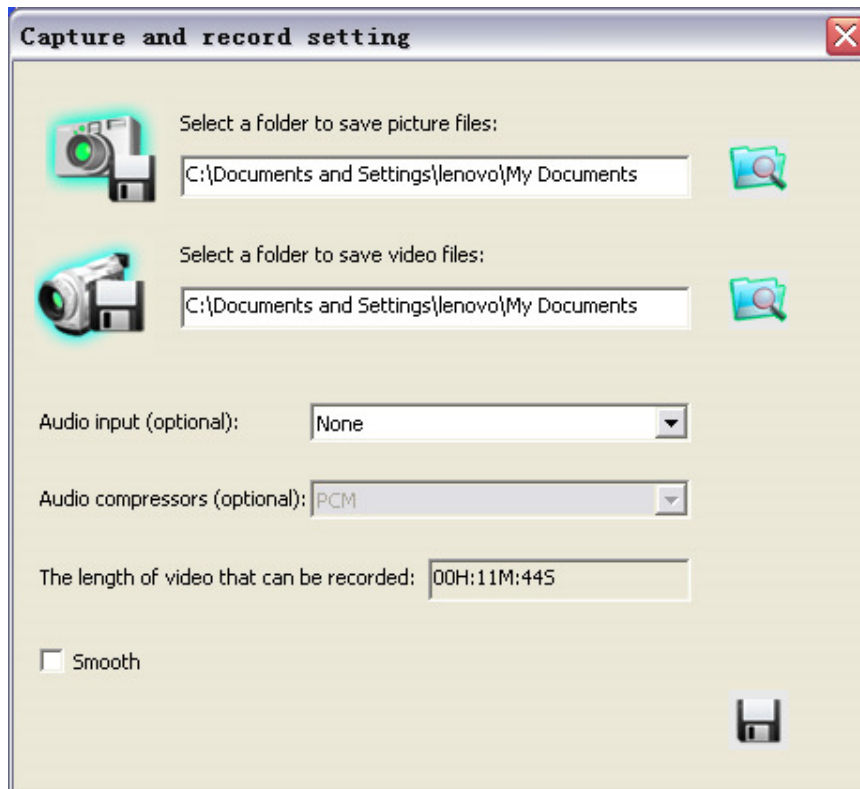
Left click  to start recording. The setting button will changes to  and does not work. The detailed information is displayed on the software status bar in the bottom of the window. The video is automatically saved in the default folder or pre-set folder.



7.2.7 SETTING

The captured images and recorded videos will be saved into the folders of Images and Videos respectively, which are created by the system automatically. To set a different path to which the

image/video is to be saved, click  on the left side of the window, a pop up dialog box appears below.

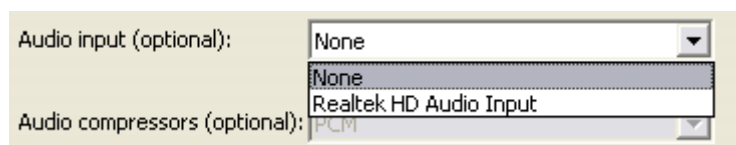


Save the captured images into a different folder

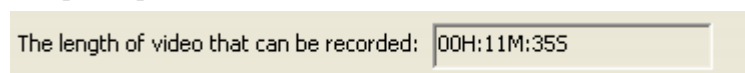
Click the button next to the "select a folder to save picture files" text box to set the path for captured images.

Save the recorded video into a different folder and set up parameters for videos

Click the button next to the "Select a folder to save video files:" text box to set the path for videos. You can also change the video settings. The Audio input (optional) drop down box offers the options of recording video with or without sound. Shown below:




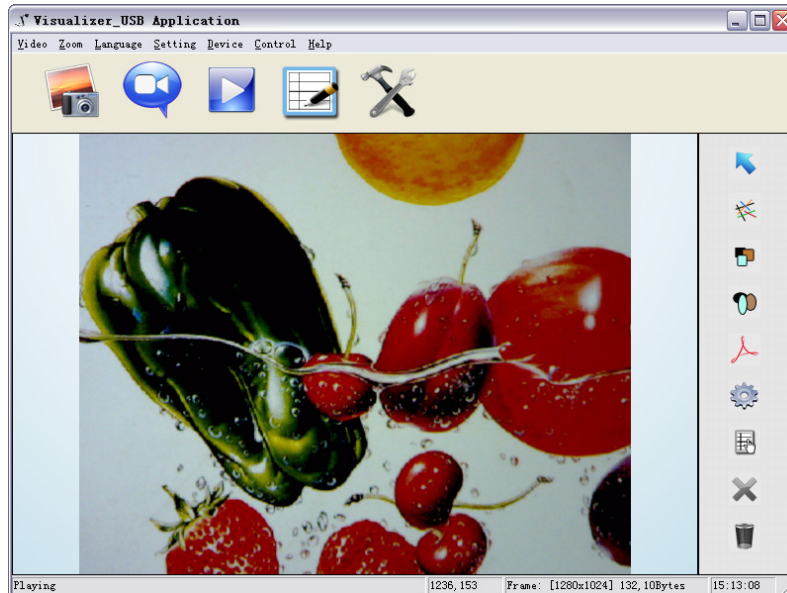
The length of video that can be recorded box displays the longest recording time for videos to be saved in the preset path. Shown below:




Click save to complete setting.

7.2.8 IMAGE MODIFY


Click  , you will see the interface:

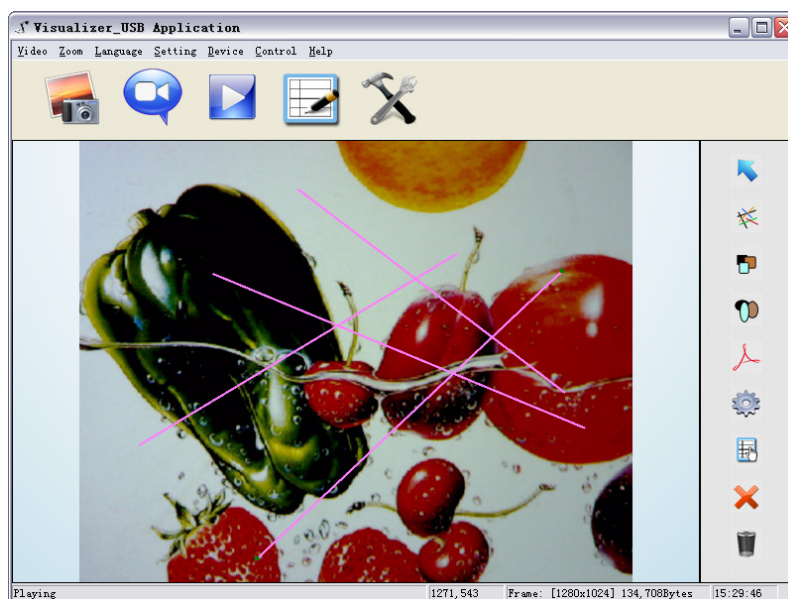


- *Graphic selection and move*

Click  to choose a line, circle, rectangle or curve that placed in the image, then move to another place.

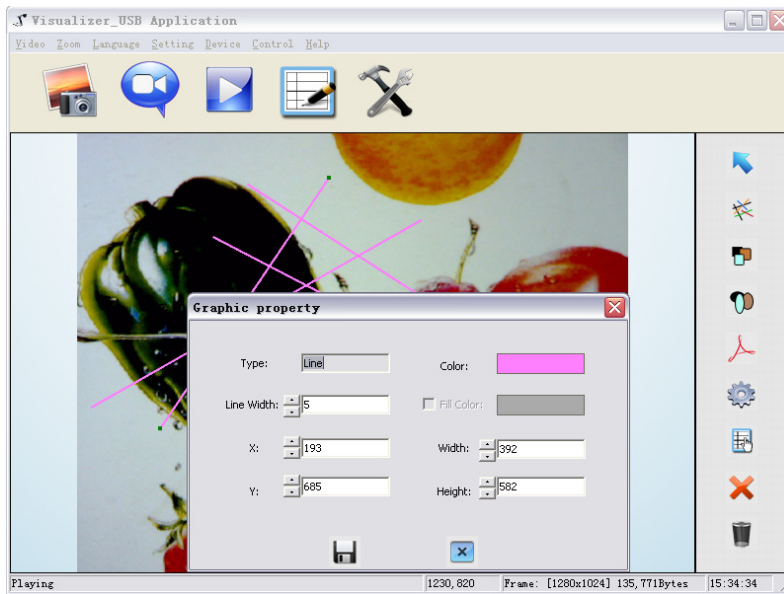
- *Line*

Click  to place a beeline in the image, shown as below:





Click to change the setting of the chosen line:



Line width: change the width of the line.

X, Y: change the position of the line.

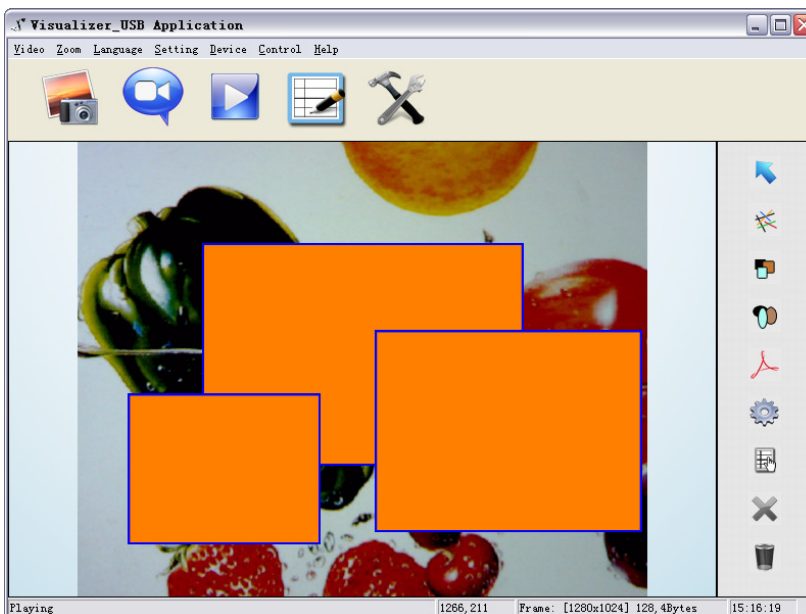
Color: change the color of the line.

Width, Height: Change the angle of the line.

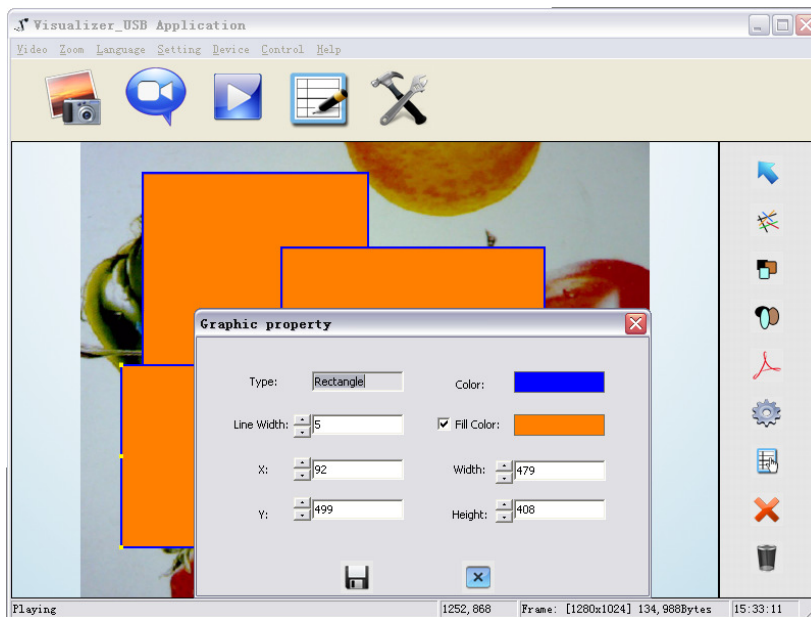
- *Rectangle*



Click to place a rectangle in the image, shown as below:



Click to change the setting of the chosen rectangle:



Line width: change the line width of the rectangle.

X, Y: change the position of the rectangle.


Color: change the line color of the rectangle.

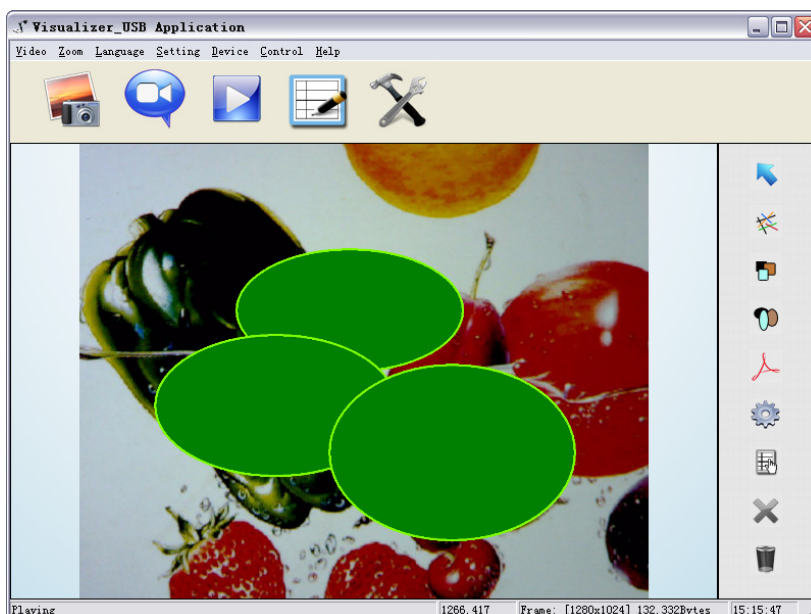
Fill Color: Tick it to fill color in the rectangle.


Width, Height: Change the shape of the rectangle by changing the angle of two adjacent lines of the rectangle.

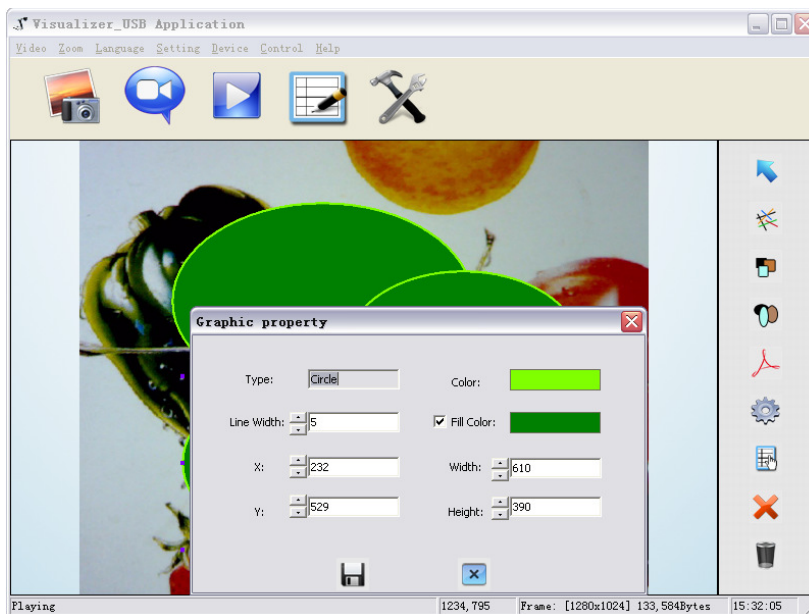
- *Circle*



Click  to place a circle in the image, shown as below:



Click  to change the setting of the chosen circle:



Line width: change the line width of the circle.


X, Y: change the position of the circle.

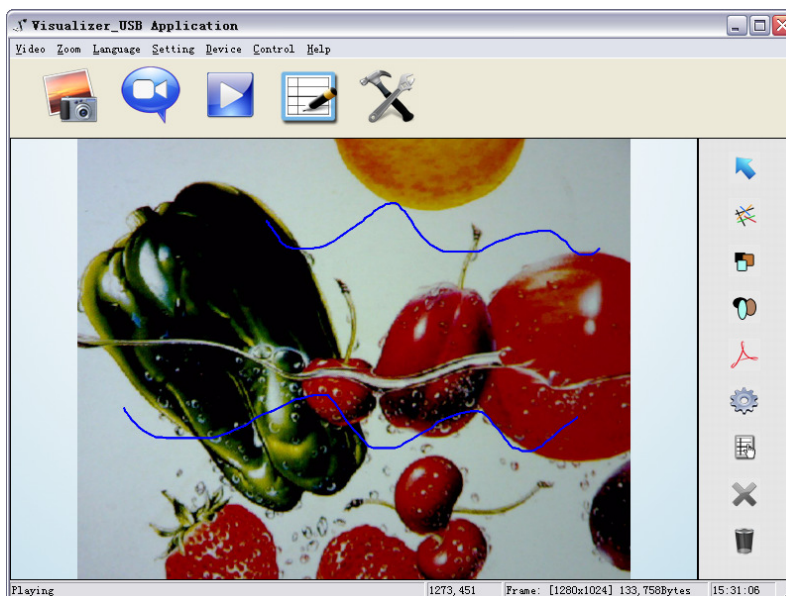
Color: change the line color of the circle.


Fill Color: Tick it to fill color in the circle.

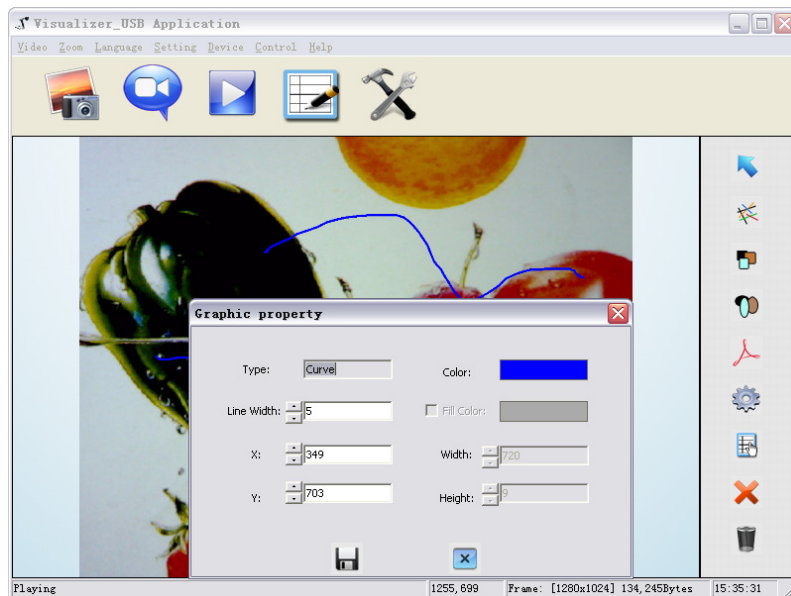
Width, Height: change the size of the circle.

- *Curve*

Click  to place a curve in the image, shown as below:



Click  to change the setting of the chosen curve:




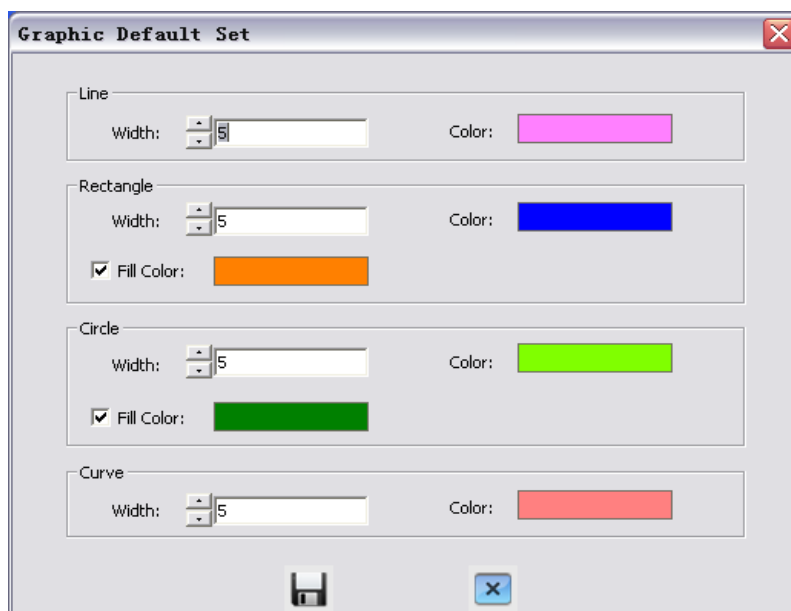
Line width: change the line width of the curve.

X, Y: change the position of the curve.


Color: change the line color of the curve.

- *Graphic default setting*


Click  to change the setting of the graphic:



- *Graphic delete*

Click  to delete the chosen graphic.

- *Delete all the graphic*

Click  to delete all graphic that placed in the image.

8. FEATURES

LIGHT

Press **“LAMP”** to turn on or turn off the light.

ZOOM IN AND ZOOM OUT

Press **"ZOOM+"** or **"ZOOM-"**

POSITIVE/NEGATIVE CONVERSION

The i3780T is automatically set to display normal materials on the screen when the power is on. To display negatives, simply laying any film negative on the platform and press the Neg button on remote control, the negative image is converted to a positive picture instantly.

FOCUS ADJUSTMENT

When the i3780T is turned on the focus automatically adjusts to the stage, it is not necessary to re-adjust the focus if you are only working with flat materials (text, photos, etc.). Only 3D objects require a focus adjustment. Press the **“AUTO”** button to auto focus. Press the **"FOCUS+"**, or **"FOCUS-"** button to focus manually.

BRIGHTNESS ADJUSTMENT

If the image effect is not satisfactory, you can adjust the brightness to get a better image effect. Use the **“BRIGHT+”** or **“BRIGHT-”** button to adjust the brightness.

WHITE BALANCE ADJUSTMENT

Each time the lighting condition changes, the user should adjust the white balance of the CMOS.

Press the **“AUTO”** button to adjust the white balance automatically.

IMAGE FREEZE

The freeze function allows you to discretely prepare the next image without interrupting current presentation. Press "**Freeze**" on remote control to freeze and unfreeze the image.

IMAGE ROTATE

Press "**Rotate**" on remote control to rotate the image by 90°, 180°, 270°.

SPLIT SCREEN

Press "**SPLIT**" to compare two images or compare two different views of one object side by side.

TITLE FUNCTION

Press "**TITLE**" to enable the title function.

PICTURE IN PICTURE FUNCTION

Press "**PIP**" on remote control to active the picture in picture function.

IMAGE SAVE

The i3780T offers the opportunity of storing 400 images on board. You can recall them by just pressing one of the numerical buttons on the front panel or remote control. Press "**SAVE**" to capture the current displaying image.

IMAGE RECALL

By pressing "**RECALL**", all saved images are displayed in the thumbnail index mode for easy selection.

RGB INPUT SWITCH

Press the “**COMPUTER**” to select the VGA input signal instead of the signal from camera.

OUTPUT SWITCH

Use “**OUTPUT**” to select DVI signals output instead of VGA signal.

USB IMAGE CAPTURE AND VIDEO RECORDING

The USB port can be used to capture still images from the i3780T into a computer. In this way, the i3780T can be used as a 3-D scanner for your computer.

USB HOST PORT

The USB host port of i3780T can be used to connect with memory stick, reading the images that in the memory stick directly from i3780T. It also can be used to connect with a USB mouse, modifying or taking notes on the pictures that from the camera.

RS232 CONTROL

The RS232 terminal allows you to integrate the i3780T into any sophisticated central control system. RS232 also enable you to control the i3780T via computer.

9. SPECIFICATION

Model	i3780T
Sensor	1/3" CMOS
Pixels	2 Megapixel
Zoom	9x optical, 12x digital
Frame rate	15
Shooting area	Max: 13.5" x 10.6" /34.3 cm x 26.9 cm Min: 0.1" x 0.1"/0.3 cm x 0.3 cm
Focus	Auto/manual
Output resolution	SXGA□XGA□720P
Resolution(Horizontal)	≥750 TV lines
White balance	Auto/manual
Color adjustment	Yes
Brightness adjustment	Yes
Negative&Positive conversion	Yes
Image capture	Yes,400 NON-volatile images
Video recording	Yes(via USB)
Image rotation	Yes
Image split	Yes
Image freeze	Yes
Picture in picture	Yes
Title	Yes
OSD	Yes
Menu	Yes
Inputs	VGA ×1, AUDIO ×1
Outputs	DVI×1,VGA ×2, AUDIO ×1
USB2.0	Slave×1(USB camera), Host×1
RS232	×1(computer controllable)
Remote control	Yes(360°controllable)
Light source	LED light box
Kensington lock	Yes
Operating temperature	32°F ~113°F
Dimensions	Folded:12.6"×7.5"×5.6", Setup:15.7"×7.5"×19.7"
Power supply	12V DC power adapter
Weight(net)	6.2lbs/2.8kg

10. TROUBLE-SHOOTING:

Symptoms	Possible causes/counter-measures
No image	<ol style="list-style-type: none"> 1. Power cord is not properly connected. 2. Cables are not properly connected. 3. Power switch is not turned on. 4. The built-in fuse is broken: Change fuse. 5. Change the output resolution.
Image bending	<ol style="list-style-type: none"> 1. Camera not in right position, adjust the camera. 2. Distortion of LCD display, press the “Auto adjust” of the LCD.
Out of focus or blurring image	<ol style="list-style-type: none"> 1. The object is too close to the lens. 2. Focus is on the top point of zoom, press ZOOM-. 3. Auto-focus is not on: press AUTO again. 4. Fog on the lens in damp climate. It will disappear gradually when the equipment warms up.

If the problem still remains after checking the above, consult your dealer or authorized service personally.

11. PACKING LIST

Item	Quantity
Power cord	1
Power adaptor(12V/2A)	1
VGA cable	1
Mini jack audio cable	1
USB cable(2.0)	1
Remote control	1
User manual(CD)	1
Stylus	1